Actiontec®

54 Mbps

Wireless Ethernet Adapter

Model #: HWE05490-01
Firmware version: 1.31 (Utility version: 1.3)

User Manual

Solutions for the Digital Life™

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Introduction 1

Congratulations on becoming the owner of the *Action*tec 54 Mbps Wireless Ethernet Adapter. Your Wireless Ethernet Adapterprovides bridging capabilities between your Wireless LAN (local area network) and one or more personal computers, gaming consoles, or other Ethernet-ready devices such as printers and storage devices.

This User Guide will show you how to set up the *Action*tec 54 Mbps Wireless Ethernet Adapter, customize its configuration to get the most out of your network. The Ethernet Adapter s compliant with the 802.11g specifications and requires that you have a Wireless Router, Access Point, or any other compatible wireless device.

Features

- 802.11g Wireless Ethernet Bridge
- 10/100Base-T Ethernet
- DHCP Client
- DHCP Server
- Configurable through HTML browser

Package Contents

Make sure the following items came in this package:

- *Action*tec 54 Mbps Wireless Ethernet Adapter with antenna
- Power Cord
- Yellow Ethernet Cable
- This User's Manual on the Installation CD-ROM
- Quick Start Guide

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System Requirements

To use the Wireless Ethernet Adapter, you must have the following:

- PC with an open Ethernet port
- Microsoft Windows XP, ME, 2000, NT4.0, 98, 98SE; MAC OS 8 or higher
- TCP/IP network protocol installed
- Internet Explorer 4.0 or Netscape 4.0 or higher

Contacting Technical Support

*Action*tec Electronics, Inc., prides itself on making durable, high-quality, high-performance products. If you need assistance, the *Action*tec Technical Support Department is available to provide professional support 24 hours a day, every day, except major holidays.

*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94086

Technical Support
Phone: 1-888-436-0657 (USA)/0845 65 80411 (UK)
Email: http://support.actiontec.com/email_support/support_form.php

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Getting to Know the 54 Mbps Wireless Ethernet Adapter

2

Front Panel

The front panel provides the user with a fast visual feedback of its current status.

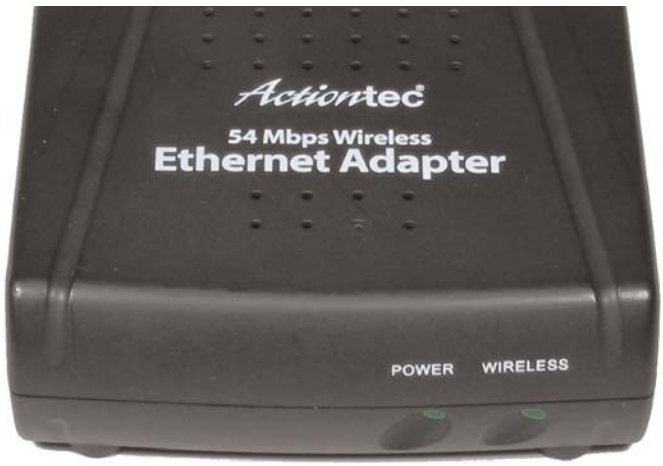

Figure 1. Front Panel and LEDs

Power	The Power light will turn green when the 54 Mbps Wireless Ethernet Adapter is powered on.
Wireless	The Wireless light will turn solid green when the 54 Mbps Wireless Ethernet Adapter is connected to the Wireless LAN. The Wireless LED will blink continuosly when data traffic is present on the wireless LAN.

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Rear Panel

The rear panel contains the ports for the unit's data and power connections.

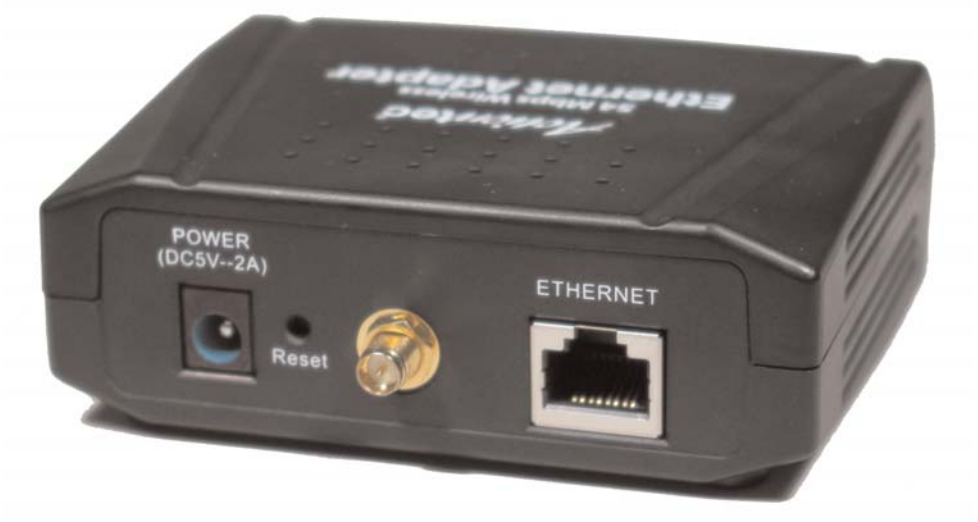

Figure 2. Back Panel and Ports

Power	Connects to the Power Cord.
Reset	Depress the Reset button to bring the 54Mbsp Wireless Ethernet Adapter to its factory default settings. Hold the button for 15 sec.
Antenna	The antenna connector allows you to connect to various antennae types. Please use the included antenna if you do not have any other antenna.
Ethernet	You connect your Yellow Ehernet Cable to this port

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Understanding your Wireless Network

3

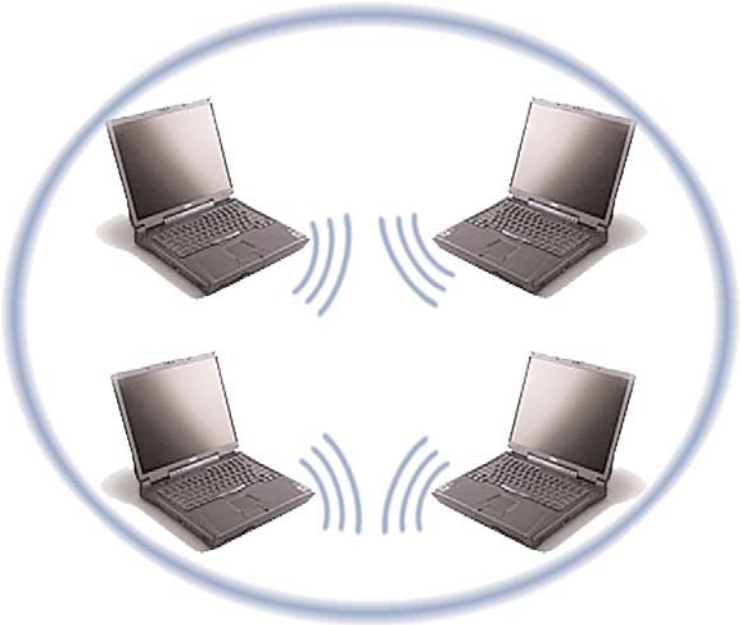
Wireless local area networks (WLAN) perform the exact same functions as wired local area networks (LAN). Each computer in the WLAN uses a data radio device to connect to the network, where all computers in the network share the same frequency and method for identifying wireless devices. Wireless local area networks differ from wired Local area networks only in their operating mode. The two operation modes are AdHoc Mode and Infrastructure Mode.

What is Adhoc Mode?

Adhoc mode is a networking framework by which wireless devices or stations communicate directly with each other, without the need for an access point (AP).

Ad-hoc mode can be referred to as peer-to-peer mode or an Independent Basic Service Set (IBSS). This Mode is useful when you want to communicate among many computers locally without the need to connect to printers or file servers on a wired LAN.

Figure 3. AdHoc Network



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What is Infrastructure Mode?

Infrastructure mode is a networking framework by which devices communicate with each other by first going through an Access Point (AP). Infrastructure mode, lets wireless devices communicate with each other or with a wired network. Two possible types of service can exist while in Infrastructure mode:

- **Basic Service Set (BSS)**
  Basic Service Set is when an Access Point is connected to a wired network and a set of wireless stations.

- **Extended Service Set (ESS)**
  Extended Service Set is a set of two or more Basic Service Sets BSSs that form a single subnet.

  Note: Corporate wireless LANs require infrastructure mode to access the wired LAN in order to use services such as file servers or printers.

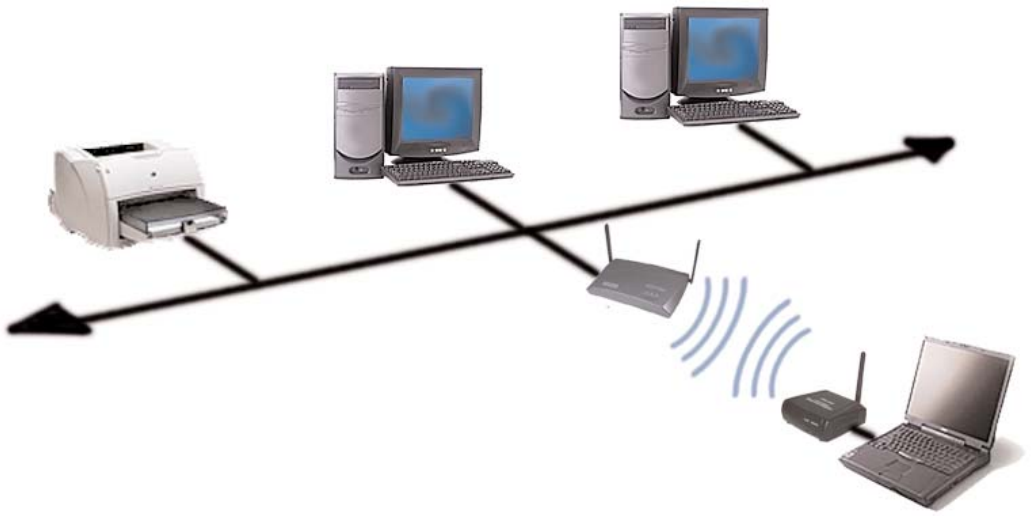

Figure 4. Infrastructure Network

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Installing the *Action*tec 54 Mbps Wireless Ethernet Adapter

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This equipment is designed with utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electronic equipment. All guidelines of this manual and of the computer manufacturer must therefore be followed at all times to ensure the safe use of the equipment.

Physical installation of the 54 Mbps Wireless Ethernet Adapter

For best performance, and range, the *Action*tec 54 Mbps Wireless Ethernet Adapter needs to be placed in a flat horizontal position with the antenna extended up as shown below:

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Connecting the Adapter to a network

Now that your *Action*tec 54 Mbps Wireless Ethernet Adapter has been installed, it is ready to be connected to the power outlet and to your wired network.

1. Get the **Wireless Ethernet Adapter** from your Quick Start Kit. Make sure that the external antenna is connected to the adapter.

2. Get the **Yellow Cable** from the Quick Start Kit. Plug one end into the **Ethernet Port** located on the back of the Ethernet Adapter. You will hear a "click" when the Yellow Cable has been properly connected.

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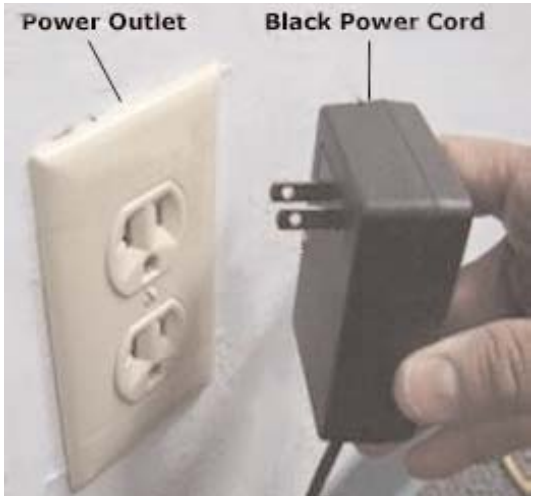
3. Plug the other end of the **Yellow cable** into the **Ethernet port** located on the back of the Computer or Game Console (like a Sony Playstation or Xbox). You will hear a "click" when the Yellow Cable has been properly connected.

4. Get the **Power Cord** and plug the small end into the **Power Port** located on the back of the Ethernet Adapter.

5. Plug the other end of the **Power Cord** into an power outlet.



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Configuring the *Action*tec 54Mbps Wireless Ethernet Adapter 5

How to configure the *Action*tec 54 Mbps Wireless Ethernet Adapter

Configuring the *Action*tec 54 Mbps Wireless Ethernet Adapter means adjusting the following settings: radio channels, security, and identification, etc. You only need to configure the *Action*tec 54 Mbps Wireless Ethernet Adapter when you want to change these settings.

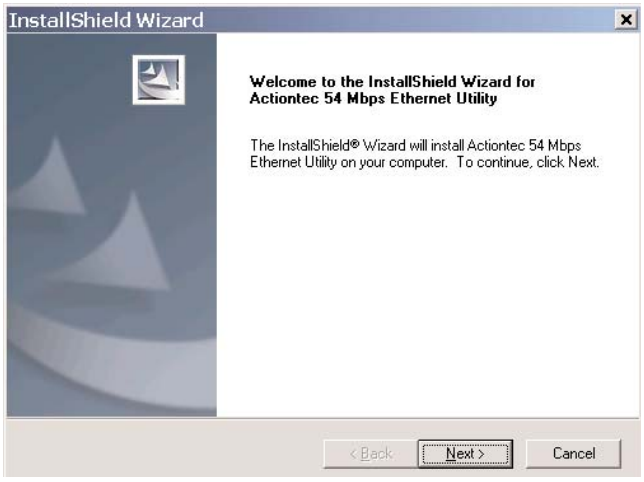
You can configure the *Action*tec 54 Mbps Wireless Ethernet Adapter through the configuration utility provided in the Installation CD or via the Web Interface.

Starting the 54 Mbps Wireless Ethernet Adapter Configuration Utility

The 54 Mbps Wireless Ethernet Adapter Configuration Utility helps you identify and modify the IP values of the 54 Mbps Wireless Ethernet Adapter without launching the Web Interface.

1. Insert the 54 Mbps Wireless Ethernet Adapter Installation CD in your Computer's CD-ROM Drive, and close the drive tray. Under My Computer, double-click on the CD-ROM drive, then double-click on "Ethernet_Adapter_Utility_1.3".

2. When the following screen appears, click on **Next** to continue.


InstallShield Wizard
Welcome to the InstallShield Wizard for Actiontec 54 Mbps Ethernet Utility
The InstallShield® Wizard will install Actiontec 54 Mbps Ethernet Utility on your computer. To continue, click Next.
< Back
Next >
Cancel

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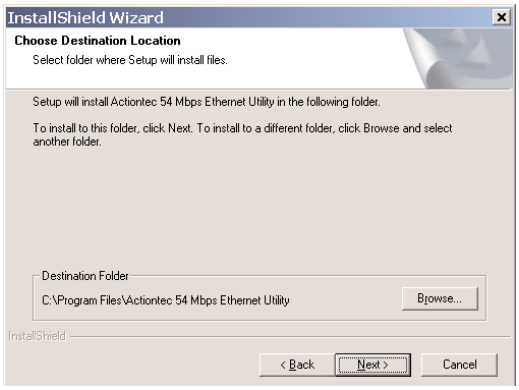
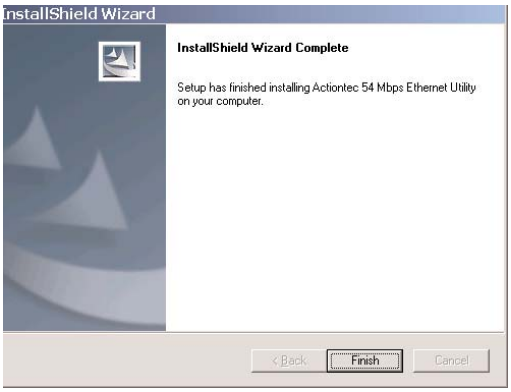
3. When the following screen appears, click **Next** to continue.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Actiontec 54 Mbps Ethernet Utility in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Actiontec 54 Mbps Ethernet Utility
Browse...
InstallShield
< Back
Next >
Cancel

4. When the following screen appears, click **Finish** to continue.



5. Once the Installation is complete, from the Windows Desktop click on the 54 Mbps Wireless Ethernet Adapter **Configuration Icon.**

Note: The 54 Mbps Wireless Ethernet Adapter Configuration Utility allows the end user to identify the IP address of the 54 Mbps Wireless Ethernet Adapter as an aid to Adjusting the Access Point's network address values, we recommend keeping the factory defaults.

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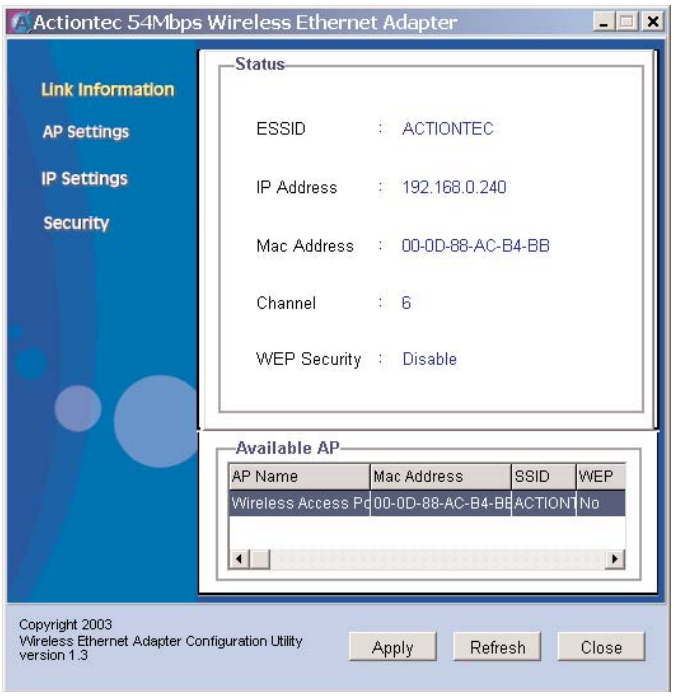
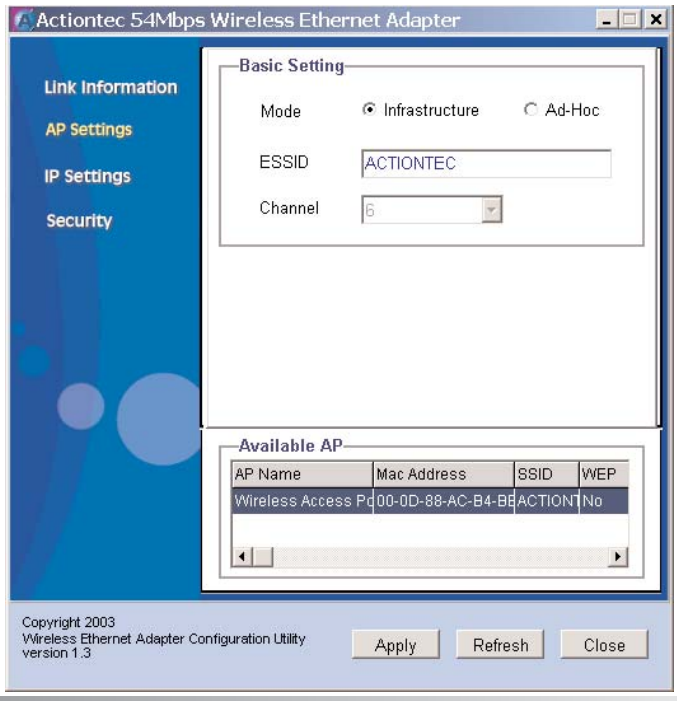
6. The 54 Mbps Wireless Ethernet Adapter Configuration Utility will scan for any Wireless Ethernet Adapters and display their information.



7. If you wish to change the factory default values, click on any of the choices on the screen.

Note: Make sure you record the current settings prior to changing the current configuration.

8. To change the wireless Settings, click on **AP Settings**, enter the appropriate values and click Apply.



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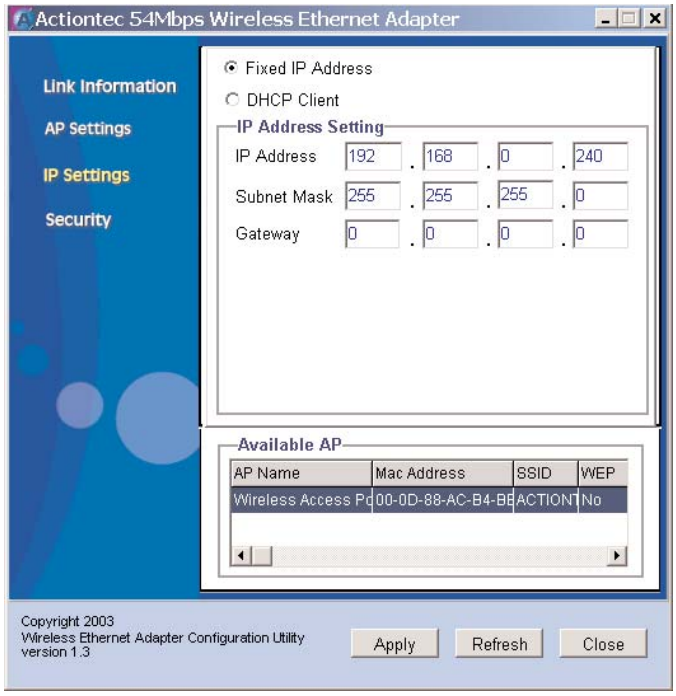
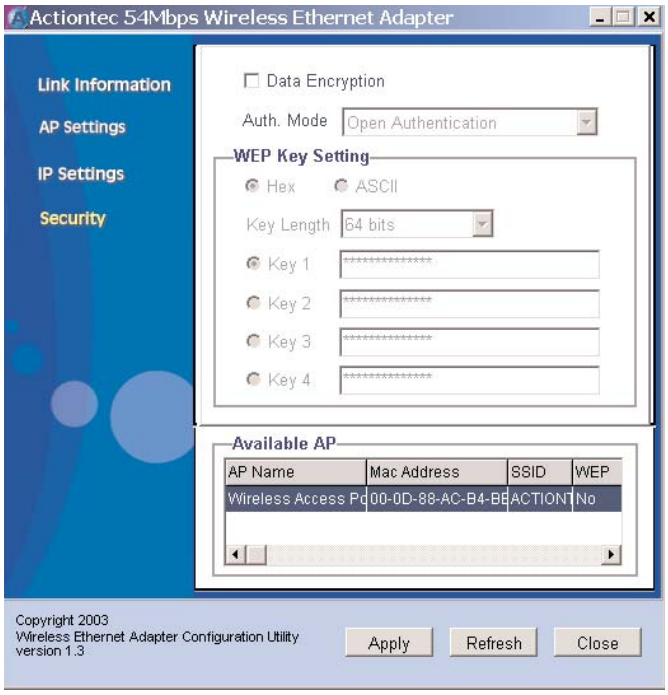
9. To change the Ethernet Settings, click on **IP Settings**, enter the appropriate values and click **Apply**.



Note: Make sure you record the current settings prior to changing the current configuration. We recommend keeping the factory defaults if you are not sure

10. To change the Security Settings, click on **Security,** enter the appropriate values and click **Apply**.



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11. Once completed, and you Apply your changes, the following screen will appear. Enter the Username and Password to apply the changes.

The default values are:

Username: **admin**

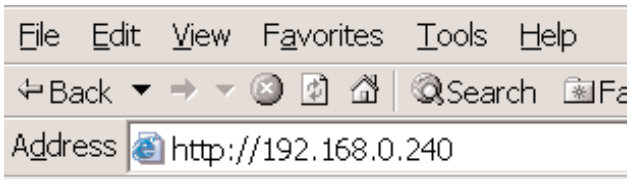
Password: **admin**

Note: The 54 Mbps Wireless Ethernet Adapter can be adjusted manually by accessing it from any browser.

Starting the Web Interface

Once the *Action*tec 54 Mbps Wireless Ethernet Adapter Configuration Utility has finished and the *Action*tec 54 Mbps Wireless Ethernet Adapter is available for configuration in the network, configure it by using any Web Browser.

1. Launch the Web Browser and type the following address in the Address Field **http:\\192.168.0.240** , press **Enter** to continue.



2. You will be asked to enter a Username and Password. Enter the **Username** and **Password** as listed below. Press **Enter** to continue.

Default Username: admin
Default Password: admin

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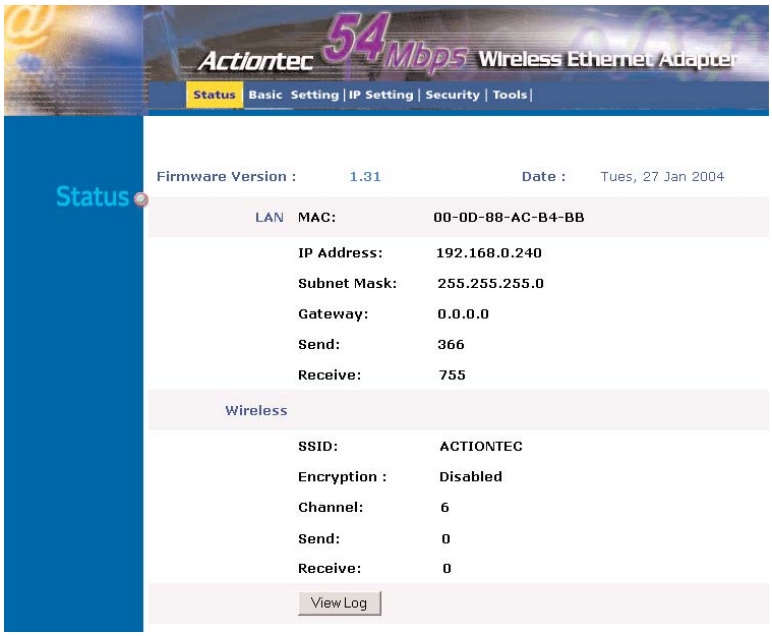
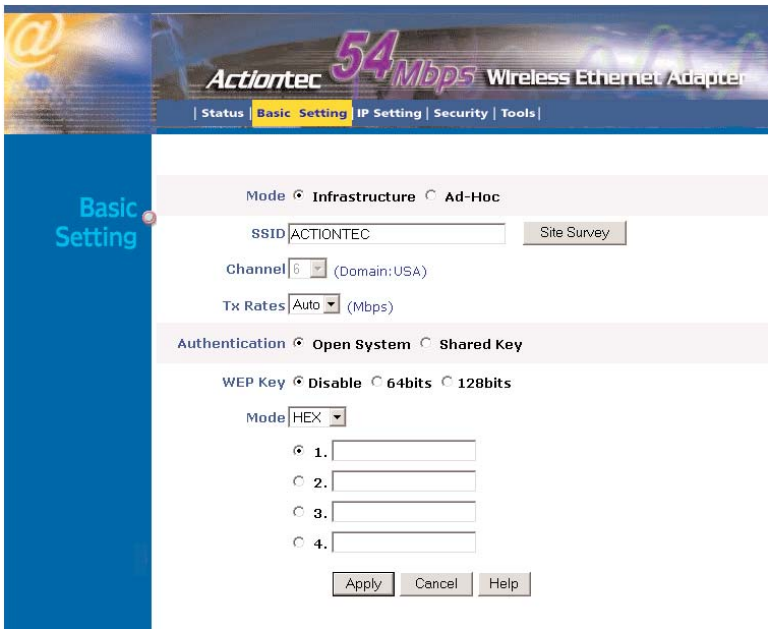
3. When the following screen appears, begin configuring your 54 Mbps Wireless Ethernet Adapter.



The Status screen provides information on all the current settings for the 54 Mbps Wireless Ethernet Adapter.

4. Click on **Basic Setting** to modify the Adapter's wireless settings.



- **Wireless Network Name (SSID):** This is the name of the Ethernet Adapter on the wireless network. The default Wireless Network Name (SSID) is: ACTIONTEC. Make sure that you enter the SSID as all capital letters.

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- **Channel:** This is the radio channel that the Ethernet Adapter will operate on, if you experience interference you may need to try different channels. (Available channels are separated by frequencies; channels 1-11 operate at 2.4GHz in the U.S.) *Action*tec recommends that you use channel 9.

- **WEP Key:** WEP is the wireless encryption standard implemented in the Ethernet Adapter. To use it, a client device (54 Mbps Wireless Ethernet Adapter) must provide a key that will be authenticated by the Wireless Access Point, Router or Gateway.

  Keys are classified by their size, 64 bit, and 128 bit. Although these keys are hexadecimal values, the Access Point, Router or Gateway takes care of converting and encrypting your defined key.

  - Enable WEP: Check the Enable WEP box to enable it. To enable the most secure use of WEP, also set Authentication to "Shared key" when WEP is enabled.

  - WEP key lengths: Select the appropriate WEP key length by clicking on the arrow, the selected length applies to all keys.

  - WEP key 1 - 4 : Enter your Phrase, or number sequence to be used as a WEP key. you can set up to four different WEP keys.

  - Default WEP key to use: Select either HEX (Hexadecimal) or Decimal for the WEP key to be used. Do this by clicking on the arrow. Data transmissions will always be encrypted using the default key.

  - Authentication: There are two methods provided by the 54 Mbps Wireless Ethernet Adapter that are used too authenticate it to the access point, Open System or Shared Key.

    -Open System allows anyone to authentic to an access point.
    - Shared Key- allows only stations that know the keys to authenticate.

Once all your changes have been completed, click on **Apply** to continue.

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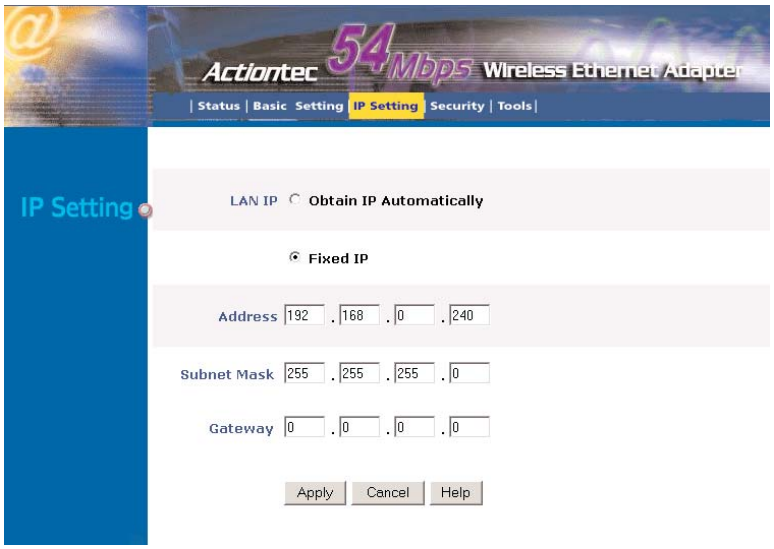
5. Click on **IP Setting** to modify the Ethernet Adapter's TCP/IP settings.

Here you can configure the IP address used by the Ethernet Adapter, you can specify whether you are using a Static IP or a DCHP address provided by a server in your network. These options will not go into effect until the Ethernet Adapter is rebooted.

- **LAN IP:** Click on the option better suited for your needs.
  - Fixed IP: Check this box to use the IP settings specified on this page.
  - Obtain Automatic IP: Check this box to use the IP settings specified by a DHCP server on your network.
- **Address:** Enter the IP address for the 54 Mbps Wireless Ethernet Adapter.
- **Subnet Mask:** Enter the subnet mask address, this specifies the number portion of an IP address. The default value for the 54 Mbps Wireless Ethernet Adapter is: 255.255.255.0.
- **Gateway:** Enter the IP address for the gateway that connects you to the Internet.


Actiontec 54Mbps Wireless Ethernet Adapter
Status | Basic Setting | IP Setting | Security | Tools |
IP Setting
LAN IP
Obtain IP Automatically
Fixed IP
Address 192 . 168 . 0 . 240
Subnet Mask 255 . 255 . 255 . 0
Gateway 0 . 0 . 0 . 0
Apply
Cancel
Help

Note: Make sure you record the current settings prior to changing the current configuration. We recommend keeping the factory defaults if you are not sure

Once all your changes have been completed, click on **Apply** to continue.

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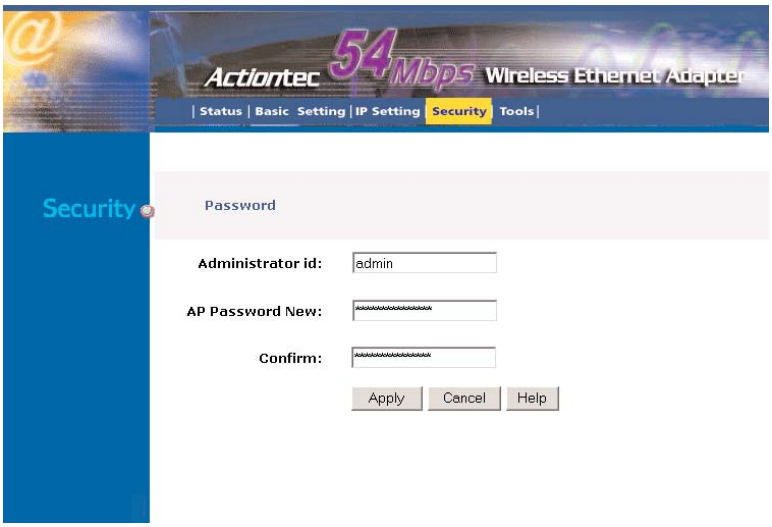
6. Click on **Security** to modify the 54 Mbps Wireless Ethernet Adapter's Administrator ID and Password, when completed click **Apply** to continue.

- **Administrator ID:** This is the user name you must type to gain access to the Ethernet Adapter and make changes to these pages. The default Username is: **admin**

- **AP Password New:** This is the password you must type to gain access to the Ethernet Adapter and make changes to these pages. You must enter the same password in the **Confirm** field. The default AP Password is: **admin**



Once all your changes have been completed, click on **Apply** to continue.

7. Click on **Tools** to access the Ethernet Adapter's maintenance tools.

- **Backup Settings:** By clicking this option, you will save the Ethernet Adapter's settings to a file on your PC's hard drive.

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- **Restore Settings:** By clicking this option, you will restore the Ethernet Adapter's settings from a file on your PC's hard drive.

- **Restore to Default Settings:** By clicking this option, you will restore the Ethernet Adapter to it's factory shipped settings.

- **Firmware Upgrade:** By clicking this option, you will carry out an Upgrade to the latest Firmware revisions for your 54 Mbps Wireless Ethernet Adapter.

Once all you changes have been completed, click on **Apply** to continue.

Configuring the Wireless Ethernet Adapter on Macintosh OS/X

The *Action*tec 54 Mbps Wireless Ethernet Adapter can be configured to operate on an Apple Macintosh with an Operating System that supports and includes the TCP/IP protocol and has a working Ethernet LAN Card. Configuration is performed by using a Web Browser.

> **Note:** The *Action*tec 54 Mbps Wireless Ethernet Adapter does not include a Configuration Utility that runs on the Macintosh's OS/X or earlier Operating Systems.

Prior to launching the Web Interface, the computer must be configured to a Static IP address, this address must be similar to the default IP address for the *Action*tec 54 Mbps Wireless Ethernet Adapter. *Action*tec recommends using 192.168.0.5.

- **Wireless Ethernet Adapter IP Address** : http://192.168.0.240

- **Computer's suggested IP Address** : http://192.168.0.x
  Where (x), can be any value ranging from 2 to 254 excluding *240* which is used by the *Action*tec 54 Mbps Wireless Ethernet Adapter

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To properly configure your Macintosh Computer for configuring the *Action*tec 54 Mbps Wireless Ethernet Adapter, refer to the following procedures:

1. From the Desktop, click on the **Apple Icon** located at the upper left hand corner of the screen. Click on **System Preferences** to continue.

2. To access the Network preferences, click on the **Network Icon** under Internet & Network.

Note: Clicking the Network Icon on the top section of the System Preferences window will also allow access to Network preferences.

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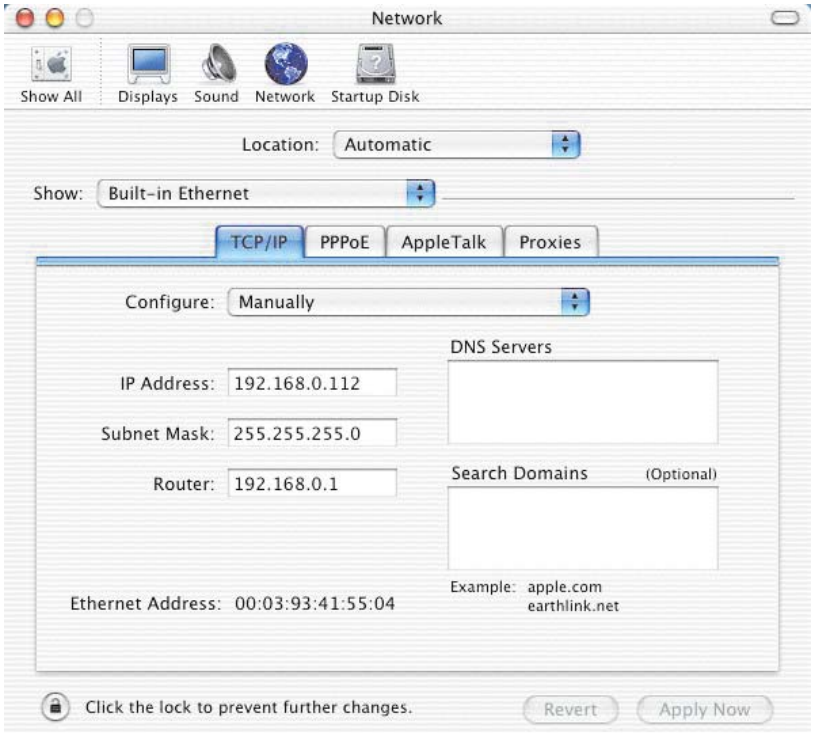
3. When the Network preferences screen displays, make sure you have selected **Built-in-Ethernet** from the **Show** drop menu.

Next, from the TCP/IP Tab, select **Manually** from the configure drop menu. Enter the appropriate **IP Address, Subnet Mask,** and **Router (optional)name**.

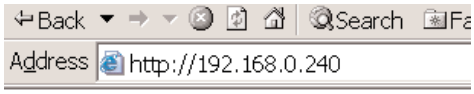
When all the above criteria has been met, click on **Apply Now** and close the Network preferences window to continue.



Starting the Web Interface under Macintosh OS/X

Once the computer has been properly configured and the *Action*tec 54 Mbps Wireless Ethernet Adapter is available for configuration in the network, configure it by using any Web Browser.

1. Launch the Web Browser and type the following address in the Address Field http:\\192.168.0.240, press Enter to continue.



2. Enter the **Username** and **Password**, press **Enter** to continue.
Default Username: admin
Default Password: admin

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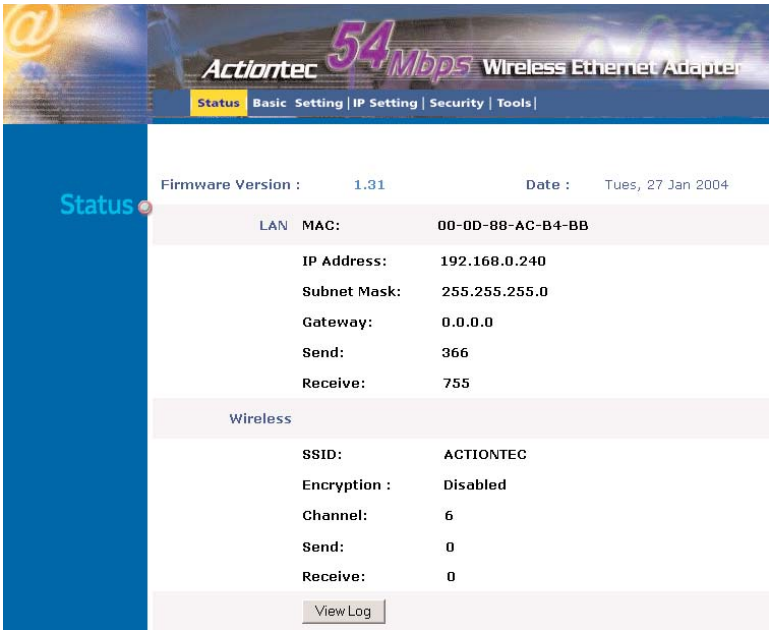
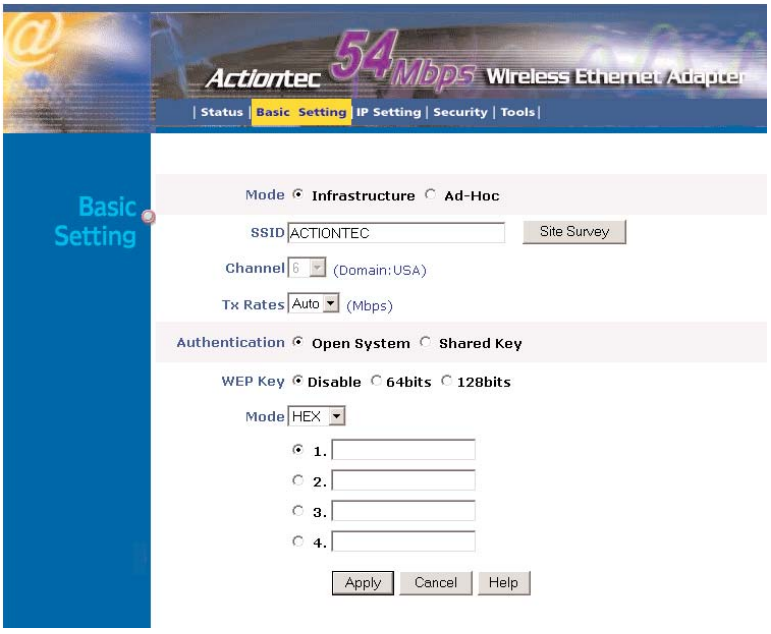
3. When the following screen appears, begin configuring your 54 Mbps Wireless Ethernet Adapter.



The Status screen provides information on all the current settings for the 54 Mbps Wireless Ethernet Adapter.

4. Click on **Basic Setting** to modify the Ethernet Adapter's wireless settings.



- **Wireless Network Name (SSID):** This is the name of the Ethernet Adapter on the wireless network. The default Wireless Network Name (SSID) is: ACTIONTEC. Make sure that you enter the SSID as all capital letters.

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- **Channel:** This is the radio channel that the Ethernet Adapter will operate on, if you experience interference you may need to try different channels. (Available channels are separated by frequencies; channels 1-11 operate at 2.4GHz in the U.S.) *Action*tec recommends using channel 9.

- **WEP Key:** WEP is the wireless encryption standard implemented in the Ethernet Adapter. To use it, a client device (54 Mbps Wireless Ethernet Adapter) must provide a key that will be authenticated by the Wireless Access Point, Router or Gateway.

  Keys are classified by their size, 64 bit, and 128 bit. Although these keys are hexadecimal values, the Access point, Router or Gateway takes care of converting and encrypting your defined key.

  - Enable WEP: Check the Enable WEP box to enable it. To enable the most secure use of WEP, also set Authentication to "Shared key" when WEP is enabled.

  - WEP key lengths: Select the appropriate WEP key length by clicking on the arrow, the selected length applies to all keys.

  - WEP key 1 - 4 : Enter your Phrase, or number sequence to be uses as a WEP key. you can set up to four different WEP keys.

  - Default WEP key to use: Select either HEX (Hexadecimal) or Decimal for the WEP key to be used, do this by clicking on the arrow. Data transmissions will always be encrypted using the default key.

  - Authentication: There are two methods provided by the 54 Mbps Wireless Ethernet Adapter that are used too authenticate it to the access point, Open System or Shared Key.

    -Open allows anyone to authentic to an access point.
    - Shared Key- allows only stations that know the keys to authenticate.

Once all you changes have been completed, click on **Apply** to continue.

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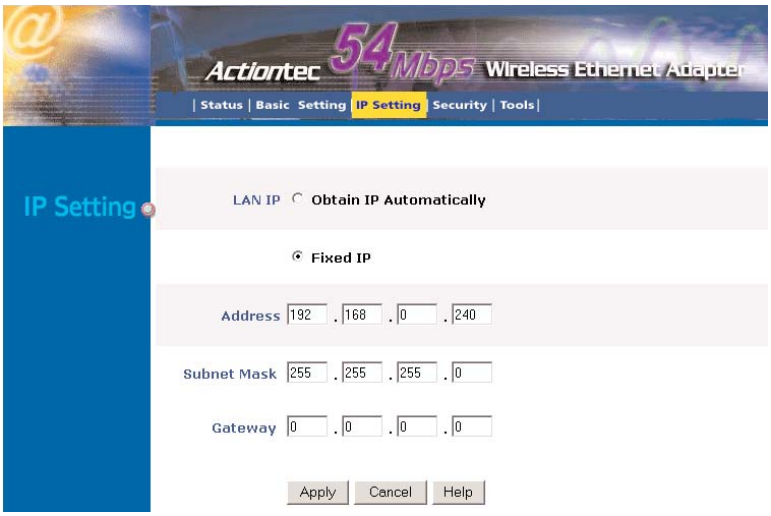
5. Click on **IP Setting** to modify the Ethernet Adapter's TCP/IP settings.

Here you can configure the IP address used by the Ethernet Adapter, you can specify whether you are using a Static IP or a DCHP address provided by a server in your network. These options will not go into effect until the Ethernet Adapter is rebooted.

- **LAN IP:** Click on the option better suited for your needs.
  - Fixed IP: Check this box to use the IP settings specified on this page.
  - Obtain Automatic IP: Check this box to use the IP settings specified by a DHCP server on your network.

Note: Due to a limitation of the Macintosh operating system, the 54 Mbps Wireless Ethernet Adapter must be configured to **Obtain Automatic IP** in order to connect to the network and the Internet.

- **Address:** Enter the IP address for the 54 Mbps Wireless Ethernet Adapter.
- **Subnet Mask:** Enter the subnet mask address, this specifies the number portion of an IP address. The default value for the 54 Mbps Wireless Ethernet Adapter is: 255.255.255.0.
- **Gateway:** Enter the IP address for the gateway that connects you to the Internet.


Actiontec 54Mbps Wireless Ethernet Adapter
Status | Basic Setting | IP Setting | Security | Tools |
IP Setting
LAN IP
Obtain IP Automatically
Fixed IP
Address 192 . 168 . 0 . 240
Subnet Mask 255 . 255 . 255 . 0
Gateway 0 . 0 . 0 . 0
Apply
Cancel
Help

Note: Make sure you record the current settings prior to changing the current configuration. We recommend keeping the factory defaults if you are not sure.

Once all your changes have been completed, click on **Apply** to continue.

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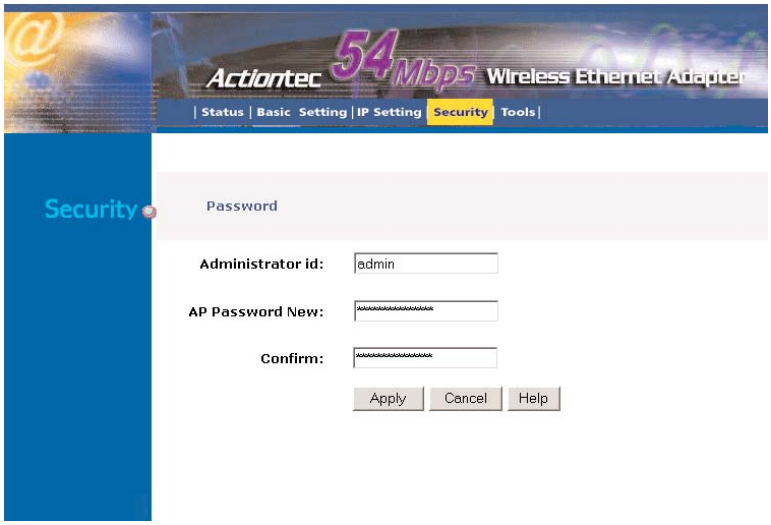
6. Click on **Security** to modify the Ethernet Adapter's Administrator ID and Password. When completed click **Apply** to continue.

- **Administrator ID:** This is the user name you must type to gain access to the Ethernet Adapter and make changes to these pages. The default Username is: **admin**

- **AP Password New:** This is the password you must type to gain access to the Ethernet Adapter and make changes to these pages. You must enter the same password in the **Confirm** field. The default AP Password is: **admin**



Once all your changes have been completed, click on **Apply** to continue.

7. Click on **Tools** to access the 54 Mbps Wireless Ethernet Adapter's maintenance tools.

- **Backup Settings:** By clicking this option, you will save the Ethernet Adapter's settings to a file on your PC's hard drive.

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- **Restore Settings:** By clicking this option, you will restore the Ethernet Adapter's settings from a file on your PC's hard drive.

- **Restore to Default Settings:** By clicking this option, you will restore the Ethernet Adapter's to its factory shipped settings.

- **Firmware Upgrade:** By clicking this option, you will carry out an Upgrade to the latest Firmware revisions for your 54 Mbps Wireless Ethernet Adapter.

Once all you changes have been completed, click on **Apply** to continue.

Configuring the 54 Mbps Wireless Ethernet Adapter for operating with a Game console

The *Action*tec 54 Mbps Wireless Ethernet Adapter can be configured to operate on any system that supports and includes the TCP/IP protocol and has a working Ethernet LAN Card. Configuration can be carried out using a Web Browser.

Game console software varies by manufacturer, we recommend following the Game console manfacturer's instructions to properly configure the game console for operation with the *Action*tec 54 Mbps Wireless Ethernet Adapter.

Once this is accomplished, refer to the **Starting the Web Interface** section to set the 54 Mbps Wireless Ethernet Adapter's internal settings.

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Troubleshooting/ Frequently Asked Questions

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This section will help you solve potential problems with installation and operation of the 54Mbps Wireless Ethernet Adapter. For further information, check the *Action*tec Electronic Inc. website at www.actiontec.com.

The 54 Mbps Wireless Ethernet Adapter can't connect to an access point.

From the Web-based Utility perform the following steps:

- Make sure the operating mode is set to Infrastructure mode.
- Make sure that the SSID is the same as the SSID of the access point. Many access points are case sensitive and require all devices to match the letter case as well.
- Check your security, on the WEP Encryption screen, make sure that all of the WEP settings match the WEP settings of your access point.

I don't know how to change the 54Mbps Wireless Ethernet Adapter's IP address.

There are two methods to change the 54Mbps Wireless Ethernet Adapter's IP address.

- Open the 54Mbps Wireless Ethernet Adapter Configuration Utility. On the IP Settings screen, click the Static IP Address radio button, and change the IP address there.
- If you encounter problems, power the 54Mbps Wireless Ethernet Adapter off and on again, or push the Reset button. Then try to change the IP address again.

The Configuration Utility won't detect the 54Mbps Wireless Ethernet Adapter.

Make sure that the Ethernet cable and power adapter are properly connected and that the green Power and Ethernet Lights are on.

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The Configuration Utility won't open.

Make sure that you have a network adapter installed on the PC so you can use the Configuration Utility.

The Configuration Utility will not recognize my password.

The password is case-sensitive. Make sure you are using the correct case(s)when entering the password.

If you forget your password, you can push the 54Mbps Wireless Ethernet Adapter's Reset button. This will reset the password to the default setting; however, all the 54Mbps Wireless Ethernet Adapter's settings will be reset to the factory defaults as well.

To use the default setting, enter **admin** in the Username and Password fields.

I don't see the changes I made through Configuration Utility.

Click the Refresh button of the configuration utility. If the new settings aren't displayed, then unplug the power adapter from the 54Mbps Wireless Ethernet Adapter. Plug the power adapter back in, and then click the Refresh button again.

How far can I be from the Access Point and maintain a connection?

The Access Point's range depends on the environment. Indoor range is approximately 91 meters (300 ft.) or more; outdoor range can reach up to 533 meters (1750 ft.).

How fast is the wireless network?

The rated speed of the wireless network under optimal conditions is 54 Mbps. This speed does vary, depending on distance from the Access Point, Gateway or Router and the amount of attenuation (physical barriers such as walls, glass, etc.) the wireless signal must go through.

I have Windows XP and I set up the 54 Mbps Wireless Ethernet Adapter according to instructions, but I'm not able to get online. What should I do?

The Ethernet Adapter in your computer may not have picked up an IP address. Simply reboot your PC and it should work fine.

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Can I use this 54 Mbps (802.11g) Wireless Ethernet Adapter to connect to the 802.11b Access Point?

Yes, this Ethernet Adapter can connect to an 802.11b Access Point.

Will cordless phones interfere with the wireless Ethernet Adapter?

The 802.11g PC Cards use 2.4 GHz frequency. If your cordless phone uses this frequency, problems may occur. Different cordless phones use different frequencies, and generally include a label stating which frequency they use. If you are having problems with interference caused by your cordless phone, try changing the channel of your wireless network. This can sometimes clear up interference issues. Any wireless device using the 2.4 GHz frequency can cause wireless interference.

Can my wireless signal pass through floors, walls, and glass?

The surrounding physical environment can have varying effects on signal strength and quality. The denser an object (a concrete wall compared to a plaster wall, for example), the greater the interference will be. Concrete or metal-reinforced structures cause a higher degree of wireless signal loss than those made of wood, plaster, or glass.

What is WEP?

Wired Equivalent Privacy (WEP) is the standard encryption mode for 802.11g communications.

How do I make a HEX-based WEP key?

64-bit WEP Key - Composed of 10 alphanumeric characters (0-9, a-f) (example: 843c29a562)
128-bit WEP Key - Composed of 26 alphanumeric characters (0-9, a-f) (example: 3c29f2536bef3276d32e364a2c)

What is the difference between 40-bit and 64-bit encryption?

There really is no difference between the two. They are different terminologies used throughout the industry for the same level of encryption.

I lost the installation CD for my 54 Mbps Wireless Ethernet Adapter. How can I get a new one?

New CDs can be purchased for $6.95 each by calling our Technical Support Department at 1-888-436-0657.

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Glossary

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802.11b - A wireless networking products standard defined by the IEEE that calls for wireless product to talk to each other regardless of manufacturer.
The 802.11b standard specifies a maximum data transfer rate of 11Mbps, operating in the ISM operating frequency of 2.4GHz, security must be WEP encryption as a minimum. 802.11b networks are also known Wi-Fi networks.

802.11g - An extension of the IEEE 802.11 standard for wireless networking hardware. The 802.11g specification specifies a maximum data transfer rate of 54Mbps using OFDM (Orthogonal Frequency Division Multiplexing) modulation, operating in the ISM operating frequency of 2.4GHz,and provide backward compatibility with IEEE 802.11b devices, and WEP encryption for security.

Default Gateway - This is the term give to a router used to forward all traffic that is not addressed to a station within the local subnet.

DHCP (Dynamic Host Configuration Protocol) - A protocol that enables network administrators central management and assignment of Internet Protocol (IP) addresses within a network.

IP Address - An IP address is a 32-binary digit number that identifies individual senders or receivers of data that is sent in packets across the Internet. These addresses are used to request and receive e-mail, web Pages, voice, and any data that has a transmiter and a receiver.

ISP - An ISP (Internet service provider) is any company that provides access to the Internet and its services.

LAN - A local area network (LAN) is a group of computers and devices that have a common communications line and share a single server within a small area such as an office building.

MAC Address - The MAC (Media Access Control) address is a unique number
assigned by the manufacturer to any Ethernet networking device, such as a network adapter, that allows the network to identify it at the hardware level.

ISSID (Service Set IDentifier) - A unique shared name between all devices in a wireless network. The SSID must be identical for each device in the wireless network and is case-sensitive.

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Static IP Address - A permanent IP address that is assigned to a node in a network.

Subnet Mask - The method used for separating IP networks into multiple subgroups, or subnets. The mask is a binary array that is paired with the IP address to turn part of the host ID address field into a field for subnets.

TCP (Transmission Control Protocol) - A protocol used along with the IP (Internet Protocol) to send data in the form of message units between network devices over a LAN or WAN.

WAN - A Wide area network (LAN) is a group of computers and devices that use multiple communications lines to allow multiple networks communicate an interchange information. The Internet can be referred to as a WAN.

WEP (Wired Equivalent Privacy) - A security mechanism based on a 64-bit shared key algorithm, as described in the IEEE 802.11 standard.

WLAN (Wireless Local Area Network) - A group of computers and devices that communicate with each other wirelessly.

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Specifications

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Software Specifications

Features	Descriptions
Ethernet	• ISO/IEC 8802-3; ANSI/IEEE standard 802.3 part 3 o IEEE 802.3x – Full Duplex capable o IEEE 802.3u – Auto negotiation • RFC 1213 S K. McCloghrie, M. Rose, "Management Information Base for Network management of TCP/IP-based internets: MIB-II", 03/26/1991. • D-I-X, "The Ethernet - A Local Area Network: Data Link Layer and Physical Layer Specifications", Digital, Intel, and Xerox, November 1982.
Wireless	• IEEE 802.11B • IEEE 802.11G
Wireless Security	• WEP 64 and 128 bit encryption • WPA-PSK ** • 802.1x ** ** Available in future firmware upgrade
Bridge	• Transparent MAC level bridge for Ethernet-like devices in conformance with the IEEE802.1d specification. • ISO/IEC 10038:1993 (E), Std 802.1D. • RFC1213 S K. McCloghrie, M. Rose, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II", 03/26/1991. • RFC1493 Definitions of Managed Objects for Bridges. E. Decker, P. Langille, A. Rijsinghani, & K. McCloghrie. July 1993.
DHCP Client	• RFC 2131: Dynamic Host Configuration Protocol: R. Droms, March 1997. • RFC 2132: DHCP Options and BOOTP Vendor Extensions: S. Alexander, March 1997. • The DHCP client supports the following minimal subset of options described in RFC2132: o Requested IP Address (requested by default; is mandatory) o Parameter Request list (subnet-mask only) o IP Address Lease time (dhcp-lease-time) o Client-identifier (dhcp-client-identifier) o Default route (routers) o DNS servers
FTP Server/Client	• RFC 1350, The TFTP Protocol (Revision 2). K. Sollins. July 1992. • FTP server is in boot loader only.
Web server and Web Based Configuration	• RFC 1945, Hypertext Transfer Protocol -- HTTP/1.0. T. Berners-Lee, R. Fielding, H. Frystyk. May 1996. • RFC 2068, Hypertext Transfer Protocol -- HTTP/1.1. R. Fielding, J. Gettys, J. Mogul, H. Frystyk, T. Berners-Lee. January 1997. (Not full support). • RFC 2617, HTTP Authentication: Basic and Digest Access Authentication. J. Franks, P. Hallam-Baker, J. Hostetler, S. Lawrence, P. Leach, A. Luotonen, L. Stewart. June 1999.

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Physical Specifications

- **Enclosure.**
  Length: 3 3/4 inch
  Width: 3 1/4 inch
  Height: 1 1/4 inch

- **Visual indicators.**
  Power: ON/OFF Ready indicator;
  Solid Green = Power on
  Off = Power off

  WLAN: WLAN indicator light that indicates whether or not it has at least one session up.

  Solid Light Green = LAN Cable connection or WLAN association to an Access Point
  Off = Modem power off or WAN connection not present.
  Flickering Green = Wireless or LAN port activity (either direction)

- **Connectors:**

  RJ-45: One for Ethernet LAN connection
  Power: One power connector for wall mount 12VDC power adapter
  Reset Button: Reset the unit and Reset to manufacturing default
  Antenna: One detachable using an RP-SMA connector

Environmental Operating Range

Operating temperature: 0-55 degrees Celsius

Humidity: 5-98%, non-condensing

Power Requirements

Operating voltage: +5V DC +- 5% @ 2A max

Power Dissipation

Active (typical) 5V DC @ 1.2A

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Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by *Action*tec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to thefollowing two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause unwanted operation.

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Note: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

*Action*tec Electronics, Inc.
760 North Mary Ave.
Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

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Hardware: *Action*tec Electronics, Inc., warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchasefrom *Action*tec Electronics or its authorized reseller.

*Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, *Action*tec Electronics may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of *Action*tec Electronics, Inc. Replacement products may be new or reconditioned. *Action*tec Electronics warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

Software: *Action*tec Electronics warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from *Action*tecElectronics or its authorized reseller. *Action*tec Electronics warrants the media containing software against failure during the warranty period. The only updates that will be provided are at the sole discretion of *Action*tec Electronics and will only be available for download at the *Action*tec Web site, www.actiontec.com. *Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec Electronics' option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable *Action*tec Electronics published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. *Action*tec Electronics makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the *Action*tec Electronics software product documentation or specifications as being compatible, *Action*tec Electronics will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with *Action*tec Electronics published specifications or user guide.The device can be configured as a DHCP server, relay agent or client.

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Return the product to:
(In the United States)
*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94085

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Dispute Resolution: The customer may contact the Director of Technical Support in the event the Customer is not satisfied with *Action*tec Electronics' response to the complaint. In the event that the Customer is still not satisfied with the response of the Director of Technical Support, the Customer is instructed to contact the Director of Marketing. In the event that the Customer is still not satisfied with the response of the Director of Marketing, the Customer is instructed to contact the Chief Financial Officer and/or President.

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